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## California Wastewater Troubles Overstated, Officials Say

Richard Nemec - March 11, 2015

Critics increasingly are sounding the alarm over California's underground injection control (UIC) program, but state and industry officials said the problem is overstated because no drinking water supplies in the state have been contaminated.

Last week the California Department of Conservation's Division of Oil, Gas and Geothermal Resources (DOGGR) said it would require operators to close a dozen oil and gas UIC wells in Kern County and target others to ensure that the state's drinking water is protected from contamination (see *Daily GPI*, [March 5](#)).

The Natural Resources Defense Council (NRDC), among others, said the closures were a "stunning admission" by the state regulators, who have been on the defensive for more than a year with the U.S. Environmental Protection Agency (EPA) concerning their handling of UIC, which includes more than 50,000 wells statewide.

State officials last month acknowledged that California has "a significant problem" and it is dealing with it quickly, focusing on public health, and working with the federal EPA (see *Daily GPI*, [Feb. 9](#)). Last Friday, in the face of stepped-up criticism, officials said objective data to date "do not support much of the rhetoric around the recent well closures."

The Western States Petroleum Association, representing industry interests, has said that there "continues to be no evidence that drinking water supplies have been negatively impacted due to injection operations."

The California Environmental Protection Agency EPA (Cal EPA) recently issued a report on past permitting of UIC wells, concluding that state and federal authorities had conflicting agreements regarding permitting. Cal EPA infers that past wastewater injections may not have been in violation of federal rules.

Of the dozen wells ordered shut early in March, NRDC has alleged that some had injected wastewater into high-quality drinking water dating back to the late 1970s. NRDC contends that injections have ranged from more than 7 million gallons to 3.8 billion gallons, and that overall, the equivalent of 5,700 Olympic-sized swimming pools of fluid has been injected.

DOGGR Oil/Gas Supervisor Steven Bohlen told *NGI* that NRDC has confused water below the 3,000 total dissolved solids (TDS) threshold, or essentially salt, with high-quality drinking water. "DOGGR's focus is on TDS because that is the requirement for the Safe Drinking Water Act, but it does not consider the potential for other naturally occurring constituents of the water that could make the water unfit for human consumption."

While noting that water in an aquifer is not necessarily "drinking" water, Bohlen said the TDS levels listed in the aquifers for the 12 closed wells range from 262 to beyond 2,000. The state standard is 500 TDS for drinking water. "Most drinking water -- called 'finished water' -- undergoes significant treatment before being sent on to the tap," he said.

While the NRDC and critics have complained about the injections, including toxic metals, volatile hydrocarbons like benzene and naturally occurring radioactive materials, Bohlen said most, if not all, of the toxics were brought up with the oil, and in the UIC process everything except the oil is returned underground.

Critics have called for more than 2,500 injection wells to be shut down immediately, contending that DOGGR's proposed review of all of them while they continue operating could take up to two years. From the state's point of view, drilling down below the criticism reveals a manageable and nonthreatening situation for the state's public health in the oil patch. NRDC and others argue that is not the case.

State officials said there are 50,000 Class II injection wells statewide, with roughly 32,000 cyclic steam oil production wells, which are common in California and involve "quite clean water" since contaminants hurt oil production. Bohlen said the majority of those wells are legally permitted into aquifers exempted for the Safe Drinking Water Act.

Otherwise, for the 2,500 wells the state said may have been incorrectly permitted into aquifers not exempted under the federal drinking water law, more than 2,000 are injecting into what are recognized hydrocarbon-producing zones, and by definition those are not drinking water areas. Those are zones that naturally contain oil.

"The water produced with the oil has constituents -- benzene, heavy metals, etc. -- that are all part of having oil in water," Bohlen said. "This water is not fit for human consumption, nor would anyone claim it is." He added that those formations "likely will be granted exemptions" from the Safe Drinking Water Act.

By the state's analysis, 530 wells are injecting into potentially problematic

nonhydrocarbon-producing zones, and officials contend that fewer than 140 of those are "injecting into aquifers with native waters of less than 3,000 TDS, or 'good water,' but not drinking quality."

"These have been reviewed and 23 have been closed out of concerns for public health because of the proximity of beneficial-use water wells and the potential for contamination," Bohlen said. None of the wells tested by the state Water Quality Resources Board have displayed any drinking water impacts. "The rest must be closed by October this year unless an aquifer exemption is applied for by the state and approved by the U.S. EPA."

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